

# Notes on a Collection of Indian Birds, mostly from Delhi

BY

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*(With three text-figures)*

Complete data are presented for 119 specimens of birds collected in 1961-1962 from Delhi, Punjab, Rajasthan, and Andhra Pradesh. Eighty-two species are represented, including eight new to the Delhi list : *Dupetor f. flavicollis*, *Amaurornis fuscus bakeri*, *A. akool akool*, *Caprimulgus i. indicus*, *C. macrurus albonotatus*, *Riparia riparia*, *Locustella lanceolata*, and *Chaetornis striatus*.

Despite the forbidding, semi-arid nature of its 574 square miles, the State of Delhi is a birdwatcher's paradise—especially in the winter, when so many Palaearctic species are present, and in the spring during the northward migration. Delhi has been fortunate in that many people assigned to work there, in governmental, military, or commercial capacities, have brought with them a keen interest in birds. And wherever birdwatchers go, a local list is soon to follow.

The first such list, based largely on specimens he collected, was published by Basil-Edwardes (1926). After a lapse of 21 years Frome (1947) published a second list, which generated a small flurry of corrections and additions (Alexander 1949 ; Benthall 1949 ; Frome 1948), culminating in yet another list (Alexander 1950). Sometime in the early 1950s a 12-page, indexed field check list was printed (anonymous, undated), listing 356 species then known to occur in Delhi. In 1953 (anonymous) a three-page list of corrections and additions to Alexander's 1950 list was published. In 1954 the Delhi Bird Watching Society published Hutson's THE BIRDS ABOUT DELHI, a fact-filled book containing data on 370 species. In 1962 I had the privilege of collaborating with Usha Ganguli and Harold Williams on a revised check list (anonymous, 1963), of 388 species, which updated the breeding and migratory status of many birds and incorporated the records contained in the present paper.

In addition to providing more detailed information on the eight species new to Delhi—Black Bittern (*Dupetor f. flavicollis*), Ruddy Crake (*Amaurornis fuscus bakeri*), Brown Crake (*Amaurornis a. akool*), Jungle Nightjar (*Caprimulgus i. indicus*), Longtailed Nightjar (*Caprimulgus*

*macrurus albonotatus*), Collared Sand Martin (*Riparia riparia*), Streaked Grasshopper Warbler (*Locustella lanceolata*), and Bristled Grass Warbler (*Chaetornis striatus*)—indicated with a dagger (†) in the text, this paper presents brief data on my entire collection of Indian birds, consisting of 119 identified specimens representing 82 species. Most of the specimens are from Delhi, but small collections from Andhra Pradesh, Punjab, and Rajasthan are also included, and are marked with an asterisk (\*). Unless otherwise noted, all specimens are deposited in the Museum, Michigan State University (MSU).

The major collecting sites were the Nursery, near the New Delhi residential area of Sundar Nagar, and in the vicinity of several large *jheels* (shallow lakes) south-west of Delhi. For a detailed discussion of the ecology, habitats, and climate of Delhi, with maps, see Donahue (1967).

Continued selective collecting in Delhi, concentrating on groups that are elusive or hard to identify in the field, such as warblers, nightjars, and rails, will add greatly to our knowledge of the Delhi avifauna. The cattail (*Typha*) marshes south of Okhla along the Agra Canal Road have been especially productive, and should be carefully observed for more records.

#### METHOD OF STUDY

The species are arranged, numbered, and named (with alternate names in parentheses) according to Ripley (1961). Subspecies were determined by comparison with specimens in the University of Michigan Museum of Zoology (UMMZ), where part of the huge Walter N. Koelz collection is housed, or at the American Museum of Natural History (AMNH), or by using published descriptions when the subspecific differences were obvious enough to prevent confusion. Credit is given when persons other than myself identified a particular specimen. In the several instances, where it was not possible to identify the subspecific population to which an individual belonged, this has been stated, and a multiple index number has been used.

The sex is given only when this has been ascertained by dissection, even in sexually dichromic species. The condition of the gonads, abbreviated as given below, serves as an indication of the sexual activity of the bird. Among the passerines the degree of ossification of the skull, given whenever this character was examined, indicates the age of the bird—an ossified skull signifying an adult bird.

All measurements, given only for the eight species new to Delhi, are in millimetres, and were taken according to the standards given by Baldwin *et al.* (1931).

The presence of external or internal parasites is noted where applicable. These nematodes and feather lice have been identified, and will be discussed in a later paper.

#### ABBREVIATIONS

##### *Gonad Condition*

♂♂	♀♀
t.n.e.=testes not enlarged	o.n.e.=ovary not enlarged
t.s.e.= „ somewhat enlarged	o.s.e.= „ somewhat enlarged
t.e.= „ enlarged	o.e.= „ enlarged
t.g.e.= „ greatly enlarged	o.g.e.= „ greatly enlarged

##### *Ossification of the Skull*

s.n.o. =skull not ossified
s.s.o. = „ somewhat ossified
s.o. = „ ossified

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Appreciation is also extended to Dwight C. Finfrock, formerly of New Delhi, for his aid in securing some of the specimens ; Irving J. Cantrall of the University of Michigan Museum of Zoology, who identified the locust eaten by a nightjar ; and to Usha Ganguli of Delhi, who served as a stimulating and knowledgeable companion during our many hours in pursuit of Delhi birds. My thanks also are due to George J. Wallace, who reviewed the manuscript.

## ACCOUNT OF SPECIES

## ARDEIDAE

57. *Ixobrychus sinensis* (Gmelin), Yellow Bittern.

1♂, 3¼ miles S. of Okhla, Delhi, 2 June 1962. t.s.e. (left about twice size of right), MSU No. 4037.

Collected at 8 a.m., while it perched about 3 ft. off ground in cattails.

58. †*Dupetor flavicollis flavicollis* (Latham), Black Bittern.

1♀, 3¼ miles S. of Okhla, Delhi, 11 May 1962. o.g.e., MSU No. 4038.

Collected at dusk by D. C. Finfrock, as it flew over dense bed of cattails, accompanied by a second bird. Stomach : 3 small fish. This species also seen in same locality on 1 June. Probably a resident species in the marsh. Tail with 11 feathers, instead of the usual 10. Measurements : wing 190, tail 72, culmen 83, tarsus 69, middle toe with claw 72. A widespread species, but new to the Delhi list. Field Marks : a very dark bird, with a large buff-and-white cheek patch and light streaks on the throat.

## ACCIPITRIDAE

124. \**Elanus caeruleus vociferus* (Latham), Blackwinged Kite.

1♂, Pali, Rajasthan, 4 Oct. 1961. t.s.e., MSU No. 4039.

Solitary, perched on treetops in thorn scrub and cultivated land.

157. *Butastur teesa* (Franklin), White-eyed Buzzard.

1♀, 8 miles SW. of New Delhi, 19 Nov. 1961. o.n.e., MSU No. 4040 ; 1♂, 1 mile S. of Alwar, Rajasthan, 2 Oct. 1961. t.n.e., MSU No. 4041 ; 1♂, 26 miles NE. of Ajmer, Rajasthan, 2 Oct. 1961. t.n.e., MSU No. 4042.

MSU No. 4040. Sitting on haystack in centre of ploughed field, semi-arid land. Stomach : 1 or 2 mole crickets (*Gryllotalpidae*), and other insect matter. Mallophaga preserved. Adult.

MSU No. 4041. Perched on road sign in open country. Stomach : 1 large grasshopper, plus other insect remains. Adult.

MSU No. 4042. Feeding on ploughed ground near large shallow lake. Stomach : over 30 grasshoppers and a beetle. Juvenile.

169. *Aquila nipalensis nipalensis* (Hodgson), Steppe Eagle.

1♂, (?), 10 miles SW. of New Delhi, 27 Dec. 1961. MSU No. 4043.

On edge of large *jheel* with other eagles, feeding on dead duck. Stomach : mostly feathers, Five species of Mallophaga preserved.



191. \**Circus pygargus* (Linnaeus), Montagu's Harrier.

1♀, (? in male plumage), 26 miles NE. of Ajmer, Rajasthan, 8 Oct. 1961. MSU No. 4044.

Feeding on open ploughed ground. Stomach : full of grasshoppers.

## FALCONIDAE

222-224. *Falco tinnunculus* Linnaeus ssp., Kestrel.

1, ? sex, 10 miles SW. of New Delhi, 27 Dec. 1961. MSU No. 4045.

In open cultivated land, perching in trees and alighting on ground. Large amount of fat on body. Mallophaga preserved.

## RALLIDAE

339. †*Amaurornis fuscus bakeri* (Hartert), Ruddy Crake.

1♂, 3½ miles S. of Okhla, Delhi, 1 June 1962. t.g.e., MSU No. 4046; 1♀ (juvenile), same locality, 1 July 1962. o.n.e., MSU No. 4047; 1♂ (juvenile), same locality, 1 July 1962, t.n.e., MSU No. 4048.

MSU No. 4046. On soggy ground near puddles in cattail marsh. Several others seen. Stomach : 18 vermiform insect larvae, 1 spider, several water-strider-like insects (Gerridae), 1 or 2 small snails, much unidentified insect matter, several pieces of gravel. Legs bright reddish pink. Subspecies confirmed at AMNH. The first record of this species from Delhi, and perhaps the southwestern-most record of this subspecies in India (see notes below).

MSU No. 4047. Same habitat. Stomach : small beetles, insect larvae, white gravel. Legs brown.

MSU No. 4048. Same habitat. Stomach : small beetles, insect larvae, much unidentified insect matter, small white gravel. Legs brown.

TABLE

MEASUREMENTS OF THE RUDDY CRAKES, IN MILLIMETRES

Specimen	wing	tail	culmen	tarsus	middle toe with claw
4046, adult♂	98	49	c. 19	37	44
4047, juv.♀	100	51	19	38	42
4048, juv.♂	100	52	19.5	36	42

<sup>1</sup> tip of bill broken off.

The Ruddy Crakes feed in the early morning (about sunrise) on the small open mud flats surrounded by cattails. They are very active feeders, and overturn and toss about bits of debris in their search for food. The birds jerk their tails constantly, in rhythm with their steps.

They are not overly shy, and a fairly close approach is possible. A sudden movement or alarm sends the birds running, with wings fluttering, into the cattails. Only rarely did I see them fly.

The only call definitely attributable to this species was uttered by an adult bird on 7 June 1962, as it fed : a short *chuck* that is lower in pitch or softer, or both, at the end.

This subspecies ranges from the Afghan border in West Pakistan to Kashmir and in suitable areas to Assam, south to Bengal, East Pakistan, and Burma (Ripley 1961). *A. f. zeylonicus* Baker ranges from north-western Mysore south to Ceylon (Ripley 1961). Humayun Abdulali (personal communication) informs me that there are two specimens from Bombay (outside the recorded range of either subspecies) in the Bombay Natural History Society collection. One was identified by Hugh Whistler as *A. fuscus fuscus*, while the second was marked as *A. fuscus bakeri* by Ripley who, however, omits mention of these birds in his SYNOPSIS (1961).

342. † ***Amaurornis akool akool*** (Sykes), Brown Crake.

1♂, 3½ miles S. of Okhla, Delhi, 2 June 1962. t.e., MSU No. 4049; 1♂, same data. t.s.e. (left over twice size of right), MSU No. 4050.

MSU No. 4049. Feeding in early morning on small, wet mud clearing in a cattail bed, with *A. fuscus bakeri*, *Porphyrio porphyrio*, and *Vanellus indicus*. Stomach : many small, black, unidentified insects, with small pieces of gravel. Measurements : wing 118, tail 57, culmen 32, tarsus 49, middle toe with claw 57.5. The first record of this species in Delhi, although it occurs south to central India.

MSU No. 4050. Stomach : one large (15 mm. long) hemipteran, a small snail, highly sclerotized arthropod pieces, and over 10 pieces of white gravel. Measurements : wing 122, tail 58, culmen 32, tarsus 50, middle toe with claw 57.5.

## CHARADRIIDAE

### Subfamily Scolopacinae

397. \****Tringa ochropus*** Linnaeus, Green Sandpiper.

1♂, Pali, Rajasthan, 4 Oct. 1961. t.n.e., MSU No. 4051.

At a small puddle in thorn scrub and cultivated land.

## BURHINIDAE

436. \****Burhinus oedicnemus indicus*** (Salvadori), Stone Curlew.

1♀, 20 miles NW. of Hyderabad, Andhra Pradesh, 12 Aug. 1961. o.n.e., MSU No. 4052.

In teak (*Tectona grandis*) jungle. Nocturnal. Stomach : adult Coleoptera and a large millipede (Diplopoda).

GLAREOLIDAE

443. **Glareola pratincola maldivarum** J. R. Forster, Collared Pratincole.

1♀, 20 miles SW. of Delhi (Najafgarh Jheel), 16 June 1962. o.e., MSU No. 4084.

One of a large flock (over 300) resting on ground at edge of *jheel*. Hawked insects at sunrise like a nightjar, but gregarious and sedentary after 6 a.m. Call : a rising *chik*, and a tern-like *chrrrik*, both uttered in flight.

PTEROCLIDIDAE

492. **\*Pterocles indicus indicus** (Gmelin), Painted Sandgrouse.

1♂, Badkhal Bund, Gurgaon District, Punjab (16 miles SSE. of New Delhi), 7 June 1962. t.s.e., in zoology teaching collection of G. J. Wallace, MSU ; 1♂, same data, t.n.e., MSU No. 4053.

This species was coming to water at dusk in groups of 2 or 3, or singly, in low rocky hills. Crop : full of a variety of dry seeds.

MSU No. 4053. Crop and Stomach : full of a variety of dry seeds, stomach with a few grains of quartz.

COLUMBIDAE

516-517. **Columba livia** Gmelin ssp., Blue Rock Pigeon.

1♀, New Delhi, 6 Sept. 1961. o.n.e., MSU No. 4054.

On old ruins in Nursery, in loose flocks that may be wild.

535. **Streptopelia tranquebarica tranquebarica** (Hermann), Red Turtle Dove.

1♀, 10 miles SW. of New Delhi, 22 March 1962. o.g.e., MSU No. 4055.

In tree in open cultivated land.

541. **Streptopelia senegalensis cambayensis** (Gmelin), Little Brown Dove.

1♂, New Delhi, 23 September 1961. t.g.e., MSU No. 4056.

Crop : full, almost entirely of two kinds of seeds.

PSITTACIDAE

549. **Psittacula krameri borealis** (Neumann), Roseringed Parakeet.

1♂, New Delhi, 28 June 1961. t.n.e., MSU No. 4057 ; 1♀, same data. o.n.e., MSU No. 4058.

One of the most common Delhi birds. Every evening large flocks of them fly into the city to roost, then fly into the surrounding countryside every morning to feed on crops. The abdomens of these specimens are

lighter (more yellowish-green) than in most north Indian specimens examined.

## CUCULIDAE

570. *Clamator jacobinus serratus* (Sparrman), Pied Crested Cuckoo.

1♀, New Delhi, 28 June 1961. o.g.e. (largest egg about 12×13 mm.), MSU No. 4059; 1♂, same data. t.s.e., MSU No. 4060.

In well-watered nursery and fruit grove.

MSU No. 4060. Large amount of fat on body. Stomach : over 50% of contents was large Hemiptera ('stink bugs').

590. *Eudynamys scolopacea scolopacea* (Linnaeus), Koel.

1♀, New Delhi, 22 June 1961. o.e., MSU No. 4061; 1♀, same data. o.g.e., MSU No. 4062. One translucent egg about 16 mm. in diameter.

In well-watered shady grove.

596-598. *Taccocua leschenaultii* Lesson ssp., prob. *sirkee* (J. E. Gray), Sirkeer Cuckoo.

1♀, New Delhi, 26 June 1961. o.e., MSU No. 4063.

One of a pair in thorn scrub adjacent to fruit grove.

600-603. *Centropus sinensis* (Stephens) ssp., prob. *sinensis*, Crow-Pheasant.

1♀, New Delhi, 13 Nov. 1961. o.n.e., MSU No. 4064; 1, ? sex, 2½ miles S. of Okhla, Delhi, 23 July 1962.

MSU No. 4064. Collected along a brushy fence row. Okhla specimen collected on ground near canal, and donated to Bombay Natural History Society.

## STRIGIDAE

627. *\*Bubo bubo bengalensis* (Franklin), Great Horned Owl.

1♂, 15 miles NW. of Hyderabad, Andhra Pradesh, 4 Aug. 1961. t.e., MSU No. 4065.

At dusk, on top of boulder in rolling, rocky scrub area near a lake. Stomach : empty.

650. *Athene brama indica* (Franklin), Spotted Owlet.

1♀, New Delhi, 20 July 1961. o.n.e., MSU No. 4066.

On power line at dusk, in residential area. Stomach : unidentified insects, one spider with egg case.

## CAPRIMULGIDAE

671. † *Caprimulgus indicus indicus* Latham, Indian Jungle Nightjar.

1♀, New Delhi, 27 July 1962. o.n.e., MSU No. 3821.

Collected at dusk as it flew through a dense locust swarm in the Nursery. Determined by Humayun Abdulali. Measurements : wing 181 (left), 182 (right) ; tail 136 ; culmen 14 ; tarsus 18 ; middle toe with claw 22. Stomach : one large locust (*Schistocerca gregaria* Forskal), det. I. J. Cantrall. This subspecies is lighter than the Himalayan *hazarae* Whistler & Kinnear. Although this species occurs throughout India, this is the first record from Delhi.

675. † *Caprimulgus macrurus albonotatus* Tickell, Longtailed Nightjar.

1♀, New Delhi, 31 Aug. 1961. o.n.e., MSU No. 4067.

Collected in late afternoon under dense canopy of *Citrus* in the Nursery. Identity confirmed by Humayun Abdulali. Stomach : a few hard insect parts, but no fresh material. Measurements : wing 197 (right), 196 (left) ; tail 150 ; culmen 11 ; tarsus 19 ; middle toe with claw 26. Both wings measured to tip of third primary ; the second primaries, which are supposed to be the longest, are 52 mm. and 53 mm. shorter than the third primaries of the right and left wings, respectively. This subspecies is larger than *atripennis* Jerdon, and the bars on the underside are wider apart and more distinct. The first Delhi record for this widespread species.

680. \**Caprimulgus asiaticus asiaticus* Latham, Indian Nightjar.

1♂, Hyderabad, Andhra Pradesh, 8 Aug. 1961. t.s.e., MSU No. 4068 ; 1♀, same data. o.e., MSU No. 4069.

MSU No. 4068. In very rocky, rolling hills. Stomach : almost entirely beetles 8-9 mm. long, including one elaterid ; also one piece of gravel 3 mm. in diameter. Wing 146 mm.

MSU No. 4069. Stomach : largely Coleoptera, including at least two elateridae, one large grasshopper, and possibly some crickets. An inordinately small specimen (wing 134 mm.).

682. *Caprimulgus affinis monticolus* Franklin, Franklin's Nightjar.

1♂, New Delhi, 23 July 1961. t.n.e., MSU No. 4070 ; 1♀, New Delhi, 17 Aug. 1962. o.n.e., MSU No. 3822.

MSU No. 4070. Collected at dusk, sitting on ground in semi-arid land. Identity confirmed by Humayun Abdulali. Stomach : nearly empty, but portions of elaterid and lucanid beetles were identified.

MSU No. 3822. Collected in evening from dense tangle of thorn bushes, emitting a *chuck-chuck* call as it rose. Tail and, to slight extent, wings in moult. Juvenile.



APODIDAE

707. \**Cypsiurus parvus batasiensis* (J. E. Gray), Palm Swift.

1♂, 12 miles N. of Hyderabad, Andhra Pradesh, 3 Aug. 1961. t.s.e., MSU No. 4073;  
1♀, same data. o.s.e., MSU No. 4074.

MSU No. 4073. One of a loose flock over cultivated land. Mallophaga preserved.

MSU No. 4074. In flock, with some swallows, over cultivated land.

ALCEDINIDAE

735-738. *Halcyon smyrnensis* (Linnaeus) ssp., Whitebreasted Kingfisher.

1♀, New Delhi, 19 June 1961. o.n.e., MSU No. 4078; 1♂, New Delhi, 16 July 1961. t.n.e., MSU No. 4079.

MEROPIDAE

747. *Merops superciliosus persicus* Pallas, Bluechecked (Large Green), Bee-eater.

1♂, 10 miles SW. of New Delhi, 27 May 1962. t.e., MSU No. 4076; 1♀, 20 miles SW. of New Delhi, 25 July 1962. o.n.e., MSU No. 4077.

MSU No. 4076. One of a group of 10 or so making sallies after flying insects from a tree near a large *jheel*.

MSU No. 4077. One of several juveniles, capable of flight, being fed by adults on tree near large lake. Stomach : insect matter, including Odonata (dragonflies). Considerable amount of fat on skin of lower back. Call (Fig. 1) : a trilled, musical



Fig. 1

tree—ew

repeated in rapid sequence, differing from call of adults.

750. *Merops orientalis orientalis* Latham, Common Green Bee-eater.

1♀, New Delhi, 13 Nov. 1961. o.n.e., MSU No. 4075.

CORACIIDAE

755-757. *Coracias benghalensis* (Linnaeus) ssp., prob. *benghalensis* Indian Roller.

1♂, New Delhi, 18 May 1961. t.s.e., MSU No. 4080.

UPUPIDAE

763-766. *Upupa epops* Linnaeus ssp., Hoopoe.

1♂, New Delhi, 26 July 1961. t.n.e., MSU No. 4081; 1♂, New Delhi, 23 Sept. 1961. t.e., MSU No. 4082.

MSU No. 4081. On ground in Nursery. Stomach: Hemiptera, Coleoptera, and other arthropod remains.

MSU No. 4082. A partial albino specimen, described and illustrated in Donahue (1963). Collected at dusk from tree.

CAPITONIDAE

780. *Megalaima zeylanica caniceps* (Franklin), Green Barbet.

1, ? sex, New Delhi, 22 June 1961. MSU No. 4083.

In fruit grove in Nursery.

PICIDAE

796. *Jynx torquilla torquilla* Linnaeus, Wryneck (or possibly ssp. *chinensis* Hesse).

1♀, New Delhi, 24 Dec. 1961. o.n.e., MSU No. 4086.

Solitary and shy, in the Nursery. Stomach: black insects, possibly ants. Det. C. Vaurie, 1963.

818-819. *Dinopium benghalense benghalense* (Linnaeus)  $\leq$  *dilutum* (Blyth), Lesser Goldenbacked Woodpecker.

1♀, New Delhi, 15 Nov. 1961. o.n.e., MSU No. 4085.

An intergrade; the darker back and ear coverts make it appear closer to *benghalense* (compared with specimens in AMNH). Stomach: almost entirely ants (Formicidae).

ALAUDIDAE

875-877. *Mirafr erythroptera* Blyth ssp., Redwinged Bush Lark.

1♂, 10 miles SW. of New Delhi, 25 March 1962. s.o., t.e., MSU No. 4090.

On roadside near cultivation, occasionally flying to utility wire to sing.

878. *Eremopterix grisea* (Scopoli), Ashycrowned (Blackbellied) Finch-Lark.

1♀, 10 miles SW. of New Delhi, 27 Dec. 1961. s.o., o.n.e., MSU No. 4088.

Part of a small flock feeding on ground in open, dry cultivated land.

\*1♂, Hyderabad, Andhra Pradesh, 3 Aug. 1961. t.e., (right almost spherical, left normal), MSU No. 4089.

In very rocky area. Stomach : vegetable matter, mostly seeds.

898-900. **Galerida cristata** (Linnaeus) ssp., Crested Lark.

1♂, New Delhi, 22 May 1961, s.o., t.e., MSU No. 4091 ; 1♂, same data, s.o., t.e., MSU No. 4092 ; 1♀, New Delhi, 5 Nov. 1961, s.o., o.n.e., MSU No. 4093.

MSU Nos. 4091 & 4092. On roadside. Det. by C. Vaurie.

MSU No. 4093. On ploughed ground surrounded by sugar-cane fields. Stomach : small seeds. Det. by C. Vaurie.

904-909. **Alauda gulgula** Franklin ssp., Eastern (Little) Skylark.

1♂, New Delhi, 5 Nov. 1961. s.o., t.e., MSU No. 4087.

On ploughed ground surrounded by sugar-cane. Stomach : small seeds.

HIRUNDINIDAE

910-911. † **Riparia riparia** (Linnaeus) ssp., prob. *diluta* (Sharpe & Wyatt)  
Collared Sand Martin.

1♂, 10 miles SW. of New Delhi, 22 March 1962. t.n.e., MSU No. 4072.

One of one or two individuals of this species with a flock of Common Swallows (*Hirundo rustica*) on power lines near a wheat field. Measurements : wing 93, tail 43, culmen 5.5, tarsus 9.5, middle toe with claw 13. I first saw this species in Delhi on 28 Dec. 1961. H. G. Alexander (unpublished notes) first saw it on 10 Feb. 1960, and again on 27 March. It may breed in Delhi, but is more probably a winter visitor. This is the first definite record of this species in Delhi, and possibly the south-western-most record in India.

912. **Riparia paludicola chinensis** (J. E. Gray), Plain (Indian) Sand Martin.

1♀, New Delhi, 27 March 1962. s.n.o., o.n.e., MSU No. 4071.

Sitting on utility wire with others of same species, in Nursery, over open waste land with bank where they probably nest.

916-918. **Hirundo rustica** Linnaeus ssp., (Common) Swallow.

1♂, 10 miles SW. of New Delhi, 19 Nov. 1961. s.o., t.n.e., MSU No. 4094 ; 1♀, 15 miles SW. of New Delhi, 17 July 1962. s.s.o., o.n.e., MSU No. 4095 ; 1♂, 15 miles SW. of New Delhi, 25 July 1962. s.o., t.n.e., MSU No. 4096.

MSU No. 4094. Gregarious, perched on utility line near water. Stomach : small insects, including Coleoptera. Many endoparasitic nematodes preserved.

MSU No. 4095. On utility wire in open country, associated with Cliff Swallows (*H. fluvicola*). Stomach : Coleoptera and other small insects. Under wing coverts in light moult. Three nematodes preserved.

MSU No. 4096. Sitting on utility wire over water, in mixed flock with *H. fluvicola*.

Although this species does not breed in Delhi, it is almost never entirely absent. The lowest population occurs in June.

#### LANIIDAE

933. *Lanius excubitor lahtora* (Sykes), Grey Shrike.

1♀, 10 miles SW. of Delhi, 27 Dec. 1961. s.o., o.n.e., MSU No. 4119.

In open cultivated land, flying to ground from perch on small thorn trees. Mallophaga preserved.

#### DICRURIDAE

962-964. *Dicrurus adsimilis* (Bechstein) ssp., Black Drongo.

1♂, New Delhi, 5 Nov. 1961. s.s.o., t.n.e., MSU No. 4097.

One of several catching insects disturbed in grain field by Bank Mynas (*Acridotheres ginginianus*). Stomach : large grasshoppers and other insects. According to Ripley (1961), ssp. *albirictus* (Hodgson) has been recorded from Delhi.

#### STURNIDAE

994. *Sturnus pagodarum* (Gmelin), Blackheaded (Brahminy) Myna.

1, ? sex, New Delhi, 15 July 1961. s.s.o., MSU No. 4120.

Stomach : 8 vermiform insect larvae (probably Diptera), and small seeds.

1006. *Acridotheres tristis tristis* (Linnaeus), Common Myna.

1♀, New Delhi, 21 June 1961. o.e., MSU No. 4148.

1008. *Acridotheres ginginianus* (Latham), Bank Myna.

1♀, New Delhi, 18 May 1961. s.o., o.e., in zoology teaching collection of G. J. Wallace ; 1♂, same data. s.o., t.e., MSU No. 4121 ; 1♂, same data. s.o., t.e. (left larger than right), MSU No. 4122 ; 1♂, same data. s.o., t.e. (left larger than right), MSU No. 4123.

Part of a large colony nesting in bank near roadside.

CORVIDAE

1031-1034. **Dendrocitta vagabunda** (Latham) ssp., Indian Tree Pie.

1, ? sex, New Delhi, 2 Sept. 1961. s.o., MSU No. 4099; 1♂, New Delhi, 18 July 1962. s.s.o., t.n.e., MSU No. 4100.

MSU No. 4099. In tree in residential area.

MSU No. 4100. In Nursery. Stomach : 2 *neem* seeds (*Azadirachta indica*), and a scarabaeid beetle. Under wing coverts and thighs in light moult.

1059. \***Corvus corax subcorax** Severtzov, Raven.

1♀, 26 miles NE. of Ajmer, Rajasthan, 2 Oct. 1961. s.o., o.n.e., MSU No. 4098.

One of a pair feeding on cattle dung in open scrub-land.

CAMPEPHAGIDAE

1069. **Tephrodornis pondicerianus pallidus** Ticehurst, Common Wood Shrike.

1♂, New Delhi, 25 Sept. 1961. s.s.o., t.n.e., MSU No. 4117.

IRENIDAE

1100. \***Aegithina tiphia deignani** Hall, Common Iora.

1♂, Hyderabad, Andhra Pradesh, 8 Aug. 1961. s.o., t.e., MSU No. 4116.

Singing in garden.

PYCNONOTIDAE

1126-1132. **Pycnonotus cafer** (Linnaeus) ssp., Redvented Bulbul.

1, ? sex, New Delhi, 21 June 1961. s.o., MSU No. 4105.

In young mango and lime grove. Probably ssp. *humayuni* Deignan, recorded from Delhi in Ripley (1961).

MUSCICAPIDAE

Subfamily Timaliinae

1254. **Turdoides caudatus caudatus** (Dumont), Common Babbler.

1♀, New Delhi, 22 June 1961. s.s.o., o.n.e., MSU No. 4101.

1255-1256. **Turdoides earlei earlei** (Blyth)  $\leq$  *sonivia* (Koelz), Striated Babbler.

1♀, 10 miles S. of New Delhi, 7 May 1962. s.o., o.s.e., MSU No. 4102; 1♀, 3½ miles S. of Okhla, Delhi, 1 July 1962. s.o., o.g.e., MSU No. 4103.

MSU No. 4102. One of a party of 3 or more, in small trees at edge of cattail marsh. The Delhi population appears to be an intergrade



between the western *sonivia* and the eastern *earlei*: Delhi specimens appear almost identical to a specimen of *sonivia* from Lahore, West Pakistan, in the AMNH, but are generally lighter in coloration than specimens of *earlei* from Uttar Pradesh eastwards (e.g., the breast and underside are lighter, and the streaks on the head and back are narrower).

MSU No. 4103. One mallophaga preserved.

The call of this species is a rather slow



1261-1266. *Turdoides striatus* (Dumont) ssp., Jungle Babbler.

1♀, New Delhi, 16 July 1961. s.s.o., o.n.e., MSU No. 4104.

One of a small party in Nursery. Stomach: unidentified insect remains. Probably ssp. *sindianus* (Ticehurst), recorded from Delhi in Ripley (1961).

#### Subfamily Sylviinae

1498. *Cisticola juncidis cursitans* (Franklin), Streaked Fantail Warbler.

1♀, 10 miles S. of New Delhi, 5 May 1962. s.n.o., o.n.e., MSU No. 4125.

On edge of and in bed of cattails near cultivation. Flies like a *Prinia*.

1503. *Prinia hodgsonii hodgsonii* Blyth, Franklin's Longtail (Wren-) Warbler.

1, ? sex, New Delhi, 9 May 1962. MSU No. 4126.

Singly or in pairs in thorn forest on Ridge. Moulting on head, primaries, and tail.

1506. *Prinia buchanani* Blyth, Rufousfronted Longtail (Wren-) Warbler.

1♂, Tughlakabad Fort, 10 miles S. of New Delhi, 5 March 1962. s.o., t.e., MSU No. 4130.

In wheat field, flying to scattered low thorn scrub when disturbed. White tips of tail feathers visible only when bird is landing.

1508. *Prinia gracilis lepida* Blyth, Streaked Longtail (Wren-) Warbler.

1♂, New Delhi, 15 Nov. 1961, s.s.o., t.n.e., MSU No. 4129.

One of a small, loose group in brush and on ground in and near wild cane (damp area). Determined with R. L. Fleming, Jr., compared with Koelz specimens at UMMZ.

1510. ***Prinia subflava terricolor*** (Hume), Plain Longtail (Wren-) Warbler.

1♂ (?), New Delhi, 29 Aug. 1961. s.n.o., MSU No. 4131; 1♀, New Delhi, 19 Nov. 1961. s.o., o.n.e., MSU No. 4136.

MSU No. 4131. In pairs, in semi-arid thorn scrub. Common.

MSU No. 4136. In wild cane, in damp situation.

1515. ***Prinia socialis stewarti*** Blyth, Ashy Longtail (Wren-) Warbler.

1, ? sex, New Delhi, 6 Sept. 1961. s.s.o., MSU No. 4127; 1♂, New Delhi, 5 Nov. 1961. s.s.o., t.n.e., MSU No. 4128.

MSU No. 4127. In thorn scrub bordering Nursery. Tail feathers being replaced.

MSU No. 4128. In tall grass and scrub. Stomach : small insects.

1517. **\**Prinia socialis socialis*** Sykes, Ashy Longtail (Wren-) Warbler.

1♂, Hyderabad, Andhra Pradesh, 17 Aug. 1961. s.o., t.e., in zoology teaching collection of G. J. Wallace.

Singing; in rocky scrub. Makes clicking sound as it flies. 10 tail feathers.

1544. † ***Locustella lanceolata*** (Temminck), Streaked Grasshopper Warbler.

1♂, New Delhi, 17 Aug. 1962. s.s.o., t.n.e., MSU No. 3823.

Measurements : wing 56, tail 47, culmen 10.5, gape 14, tarsus 19.5, middle toe with claw 16.9. Silent, in thick bushes adjacent to unseasonally dry damp area of tall wild grass, in Nursery. Field marks : heavily streaked above, necklace on upper breast, short rounded tail, very faint supercilium. A new record for Delhi, and the southwestern-most record in India. Identity confirmed by Sâlim Ali. There is a specimen in the Bombay Natural History Society collection from Kutch, Gujarat, which has not been reported in the literature and represents an even farther range extension.

1547. † ***Chaetornis striatus*** (Jerdon), Bristled Grass Warbler.

1♂, 2 miles S. of Okhla, Delhi, 23 July 1962. s.o., t.e. (right testis spherical, about  $\frac{2}{3}$  size of normal left testis), MSU No. 4124.

Singing at 6 a.m., solitary, in tall marsh grass beside Agra Canal Road (milepost 2). Soft parts : mouth black; iris light brown; upper mandible greenish-black, lower bluish-grey, darker at base and on edges; legs flesh-pink, toes light brown, pads flesh-white, claws dark brown. Measurements : wing 92, tail 90, culmen 12.5, gape 18, tarsus 30, middle toe with claw 29.5. Field marks : like *Acrocephalus stentoreus* but much darker, with a streaked back, short heavy bill, and no conspicuous supercilium. A rather widespread species endemic to the Indian subregion, but apparently local and rare. New to the Delhi list.

This specimen has a 'necklace' formed by the dark shafts of the breast feathers, a character not previously mentioned in published

descriptions. This character is variable : although all specimens I have examined have stiffened breast feathers, only a few of the birds have the darkened shafts. The AMNH has only 3 specimens of this bird, one of which has the necklace, while a second bird has a few darkened shafts. Humayun Abdulali informs me that the necklace is visible in only one of the three specimens in the Bombay Natural History Society collection (all males), although the stiff shafts may be felt in all three specimens.

The call (Fig. 3), which I believe has never been described, is a pleasant, musical



uttered from an exposed position on tall marsh grass or a bush.

1556. *Acrocephalus dumetorum* Blyth, Blyth's Reed Warbler.

1♂, 5 miles S. of New Delhi, 4 May 1962. s.o., t.n.e., MSU No. 4134.

Apparently many, migrating. Active in thorn trees, catching insects. Determined with aid of R. L. Fleming Jr., compared with Koelz collection at UMMZ, and confirmed by Charles Vaurie.

1562. *Hippolais caligata caligata* (Lichtenstein), Booted Warbler.

1♂, 15 miles SW. of New Delhi, 6 Aug. 1962. s.s.o., t.n.e., MSU No. 4132.

One of two birds in clumps of grass and small, isolated scrub brush in dry cultivated land. Determined with aid of R. L. Fleming Jr., compared with specimens at UMMZ, and confirmed by Charles Vaurie.

1567-1568. \**Sylvia curruca* (Linnaeus) ssp., Lesser Whitethroat.

1, ? sex, Pali, Rajasthan, 4 Oct. 1961. s.s.o., MSU No. 4133.

In thorn scrub cropland. Identity confirmed by C. Vaurie.

1574-1576. *Phylloscopus collybita* (Vieillot) ssp., Brown Leaf Warbler (Chiffchaff).

1♀, New Delhi, 13 Nov. 1961. MSU No. 4137.

Active in low bushes in Nursery.

#### Subfamily Turdinae

1644-1646. *Erithacus svecicus* (Linnaeus) ssp., Bluethroat.

1♂, New Delhi, 5 Nov. 1961, s.s.o., t.n.e., MSU No. 4113.

In tall grass and border of ploughed field, feeding on ground. Stomach : ants and other insects.

1692. **Cercomela fusca** (Blyth), Brown Rock Chat.

1♀, Tughlakabad Fort, 10 miles S. of New Delhi, 5 March 1962. s.o., o.n.e., MSU No. 4110.

Common about ruins of fort, on rocks and on ground. Stomach : insects, including parts of at least one grasshopper.

1700. **Saxicola caprata bicolor** (Sykes), Pied Bush Chat.

1, ? sex, New Delhi, 22 May 1961. s.n.o., MSU No. 4114; 1♂, same data. s.o., t.e., MSU No. 4115.

1710. **Oenanthe deserti deserti** (Temminck), Desert Wheatear.

1♂, 10 miles SW. of New Delhi, 19 Nov. 1961. s.s.o., t.n.e., MSU No. 4111.

1♀ same data. s.s.o., o.n.e., MSU No. 4112.

Together on freshly-ploughed ground. Stomach : both had small insects. This subspecies is smaller than *oreophila* (Oberholser), and has less white in the wing.

1♂ (?), same locality, 27 Dec. 1961. s.s.o., in zoology teaching collection of G. J. Wallace, MSU.

On cultivated ground, perching on low bushes.

1717-1721. **Saxicoloides fulicata** (Linnaeus) ssp., Indian Robin.

1♂, New Delhi, 28 June 1961. s.n.o., t.n.e. MSU No. 4108; 1, ? sex (in male plumage), New Delhi, 13 Nov. 1961. s.s.o., MSU No. 4109.

MSU No. 4108. In rocky, open scrub land. Probably subspecies *cambaiensis* (Latham), reported from Delhi by Ripley (1961).

1726. **Monticola solitarius pandoo** (Sykes), Blue Rock Thrush.

1♂, New Delhi, 12 Nov. 1961. s.s.o., t.n.e., MSU No. 4107.

Feeding on ground, perching on brick ruins in Nursery. Photographed in life, in colour. Stomach : small seeds and insect matter. This subspecies is darker than *longirostris* (Blyth).

1763. **Turdus ruficollis atrogularis** Jarocki, Redthroated Thrush.

1♂, New Delhi, 27 March 1962. s.o., t.n.e., MSU No. 4106.

In waterlogged area with canopy of thorny legume trees, in Nursery, where this species was present throughout the previous winter.

## MOTACILLIDAE

1875. **Motacilla flava thunbergi** Billberg, Yellow (Greyheaded) Wagtail.

1♂, 10 miles SW. of New Delhi, 19 Nov. 1961. s.o., t.n.e., MSU No. 4118,

On edge of roadside mud puddle,

NECTARINIIDAE

1907. \**Nectarinia zeylonica sola* (Vieillot), Purplerumped Sunbird.

1, ? sex, Hyderabad, Andhra Pradesh, 10 Aug. 1961. s.o., MSU No. 4140;

1♂, same locality, 17 Aug. 1961. s.o., t.e., MSU No. 4141.

Both in a garden.

1917. *Nectarinia asiatica asiatica* (Latham), Purple Sunbird.

1, ? sex, New Delhi, 28 June 1961. MSU No. 4138.

In Nursery.

\*1♂, Hyderabad, Andhra Pradesh, 17 Aug. 1961. s.o., t.n.e., MSU No. 4139.

In garden.

ZOSTEROPIDAE

1933. *Zosterops palpebrosa palpebrosa* (Temminck), White-eye.

1♀, New Delhi, 15 Nov. 1961. s.o., o.n.e., MSU No. 4142; 1♂, same data.

s.o., t.n.e., MSU No. 4143.

Both from a flock in large tree in the Nursery.

PLOCEIDAE

1938. *Passer domesticus indicus* Jardine & Selby, House Sparrow.

1♂, New Delhi, 6 Sept. 1961. s.o., t.g.e., MSU No. 4144.

1966. \**Lonchura malabarica malabarica* (Linnaeus), Whitethroated Munia.

1♀, Hyderabad, Andhra Pradesh, 17 Aug. 1961. s.o., o.g.e., MSU No. 4145;

1♂, same data. s.o., t.e. (left about twice as large as right), MSU No. 4146.

Both in a garden.

1974. \**Lonchura punctulata punctulata* (Linnaeus), Spotted Munia.

1♀ (?), Hyderabad, Andhra Pradesh, 10 Aug. 1961. s.o., MSU No. 4147.

Nest of grass, globular, about 5 ft. off ground in dense cedar bush.



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